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ABSTRACT

Planning for instructional use of microcomputers should start with the curriculum, not with computers. Planning is a necessity and it should be a fluid process. A planning model offered by the Minnesota Educational Computing Consortium starts with an analysis of current curriculum to identify the content, skills, and attitudes that are considered important; then determines what kinds of instructional activities are possible using computers; and finally matches the curriculum desires with the computer capabilities. Another approach to planning involves answering the following questions: (1) Which curriculum goals and objectives are to be enhanced by microcomputers? (2) What outcomes are expected and how will their achievement be measured? (3) What software and/or process will be used? (4) What considerations have been made for purchasing hardware? (5) What staff inservice has been planned? (6) Were the intended outcomes achieved? (7) What additional applications should be considered? and (8) What modifications to curriculum goals should be considered? Basic considerations include involving a staff committee in development of the plan; reflecting school goals, needs, and limitations; joining with others to develop a district level plan; remembering that the plan is more temporary than permanent; and making the budget realistic. (DC)

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HOW TO PLAN FOR EFFECTIVE INSTRUCTIONAL USE OF MICROCOMPUTERS

by

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Tips for Principals from NASSP

November 1983

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Tips for Principals from NASSP November 1983

How To Plan for Effective Instructional Use of Microcomputers

"The planning necessary to implement computer use should be based on one fundamental ground rule: Start with the curriculum, not with computing."

Those wise words come from Ken Brumbaugh and Don Rawitsch of the Minnesota Educational Computing Consortium, perhaps the nation's best known producer and distributor of education software.

You may be saying at this point: "Well, that's good advice for beginners. But we've already bought machines, we've had some inservice training, and we're using computers for many instructional purposes."

Read on.

Planning: Fluid, Necessary

The experts point out that (1) you can't afford not to plan and (2) planning is a "fluid process."

The current status of your computer education program should not be the factor you use to decide whether to develop or forego a plan. Whether you are acquiring your second or your twentieth microcomputer, you can use them more effectively if your decisions about the choice of equipment and their use are based on a written plan.

You will need to develop *and* maintain staff and community support. They are more apt to support you if they feel you know where you're headed.

Where Do You Start?

If you subscribe to the ground rule laid down by Brumbaugh and Rawitsch, you'll want to learn more about the planning model they recommend.

Basically the model has three steps:

Step 1: Analyze the current curriculum, perhaps by subject area, to identify content, skills, and attitudes. This represents what educators want to do for students.

Step 2: Determine what kinds of instructional activities are possible using computers.

Step 3: Compare the curriculum desires with the computer capabilities to find where matches occur. These are the places where computing fits the curriculum well. There are many areas of the curriculum where computing does not fit.

A Second Approach

Another way to plan for the instructional use of computers is detailed in *Principal's Planning Guide for Microcomputers,* developed by the Michigan Council of Teachers of Mathematics and the Michigan Intermediate Media Association. (The guide is now out of print.)

These two organizations advocate the use of a cyclic process *and* your involvement, as principal, in planning.

The process can be used if your school already has micros and an established program. You would simply enter the cycle at a different point.

The process requires you to answer the following questions:

1. Which of the building's curriculum goals and objectives are to be enhanced by the introduction of microcomputers?

- Have all content areas been considered?
- What specific objectives within each content area have been identified?
- Why are computers the best means of achieving these objectives?

2. What instructional outcomes are expected? How will achievement of these outcomes be measured?

- Will it be used: to motivate? to remediate? to assess achievement? for enrichment? for individualization? to improve attendance? for diagnosis?
- What evaluation instruments will be used?
- What criteria have been established to determine the degree of achievement of the objectives?

3. What instructional software and/or process will be used to achieve the desired outcomes?

- How much does a program or package cost?
- Is the software well documented, i.e., are printed instructions provided?
- Are printed support materials provided, e.g., sample lesson plans?
- Is the software easy to use, i.e., can students use it without full-time adult supervision?
- Are the materials instructionally sound?
- Does the program represent appropriate use of the computer, e.g., could the objectives be accomplished more easily by other means?

4. What considerations have been made in preparation for purchase of microcomputer hardware?
- Will the computer run the software selected?
- Where will the microcomputers be housed?
- Is the system expendable?
- What peripherals (e.g., printers, modems) are necessary?
- Is service available?
- Are screen displays easily read?
- How will maintenance be handled?
- Is the system easy to set up and use?
- Cost? Can a cooperative purchase be made?
- Is the hardware compatible with other machines in the district? Should it be?

5. What inservice has been planned with staff?
- What level of teacher competence is necessary?
- What university resources are available?
- How much time is required and when will it be provided?
- Are there resource people inside the building (or within the district)?
- What periodicals on educational computing are available within the building?
- Are "hands-on" experiences included?
- How will equipment be made available for home use?
- Can participants borrow software?
- Is the library adequate?
- How will inservice be offered to parents?

6. Were the intended outcomes achieved?
- Was the evaluation tool adequate?
- How should the system be modified for the next round?

7. What additional applications should be considered?
- Administrative use after school hours?
- Classroom management?
- Energy use control?
- Information networks?
- Word processing?
- Utility programs, e.g., statistical programs?

8. What modifications to the curriculum goals and/or additional applications should be considered?
- What new goals and objectives should be considered?

Note: At this point the cycle starts again.

Basic Considerations

Taking the time to involve a staff committee in the development of a plan could actually speed up full implementation of your program and prevent it from becoming disjointed, confusing, and unsupported.

Such a committee should include teachers and other personnel from a wide variety of grades and departments. Don't allow the committee to be dominated by persons from one discipline area, experts advise.

And, although you will probably need to turn most of the details and the chair of the committee over to someone else, keep in touch. Your visibility and interest lend the official aura necessary to complete the plan and implement it effectively.

Your plan will need to reflect your school goals, the amount of hardware and software you have, your budget, anticipated future support, your school enrollment, and the sophistication of your staff in using micros.

Another important factor to consider is the district level plan. If there isn't one, you may want to join with other interested persons districtwide in persuading central office administrators to move in that direction.

Finally, remember to consider whatever plan you develop as more temporary than permanent. Whether your plan is for one year or for five, according to one educator, it will go through four stages in its lifetime: initiation, support, implementation, and revision.

Many factors will determine how quickly you will need to revise your plan, a prime one being the rapid changes taking place in the computer industry.

Make Budget Realistic

Don't underestimate the cost of making micros part of your instructional program. This is easy to do if you simply calculate the costs on the basis of newspaper ads for computer hardware.

The advertised price is quite often only that for minimal hardware, according to Brumbaugh and Rawitsch. You can quickly add 50 percent or more to the base price when you ask for extra hardware, software packages, maintenance contracts, and related support materials.

The two Minnesotans offered the following sample instructional computing budget:

Item	*% of Total*
Equipment (basic unit)	66
Hardware peripherals	12
Software	12
Maintenance	5
Miscellaneous	5

by Shirley Boes Neill

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